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ABSTRACT

This is volume 4 of the series of translations of books from the Soviet literature on research in the psychology of mathematics instruction and on teaching methods influenced by the research. The introduction to this English language translation highlights the fact that significant advances have been made in the understanding of both the mathematical conceptual development of children and the role of schooling in that development since 1974 when this book was originally published in Moscow. Nonetheless, this volume presents several points of view not found in the literature of North America. The preface to the Soviet edition offers the rationale for the movement away from procedural skills and toward the development of conceptual skills within the Soviet mathematics education system during the 1960s. The following chapters are included: (1) aspects of teaching preschool children the elements of mathematics; (2) teaching methods in school and kindergarten in the 19th and 20th centuries; (3) the development of children's first mathematical knowledge of sets, number, and counting; (4) aspects of children's development of notions of size, shape, and mass on the basis of sensory perception; (5) developing techniques of measuring length, mass, and vessel capacity for older preschool years; (6) developing children's spatial orientation; (7) perception of time by preschool children; (8) general didactic principles in teaching children elementary mathematics; (9) curriculum and methods for teaching the elements of mathematics to 3-year-olds; (10) curriculum

and methods for teaching elementary mathematics to 4-year-olds; (11) curriculum and methods for teaching elementary mathematics to 5-year-olds; and (12) curriculum and methods for teaching elementary mathematics to 6-year-olds. The appendices contain: the historical development of number, written numeration, and number systems; visual materials for the mathematics lessons and children's independent games and lessons; and the figures used throughout the book. (JJK)

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